

**DCM**  
Division of  
Coastal Management



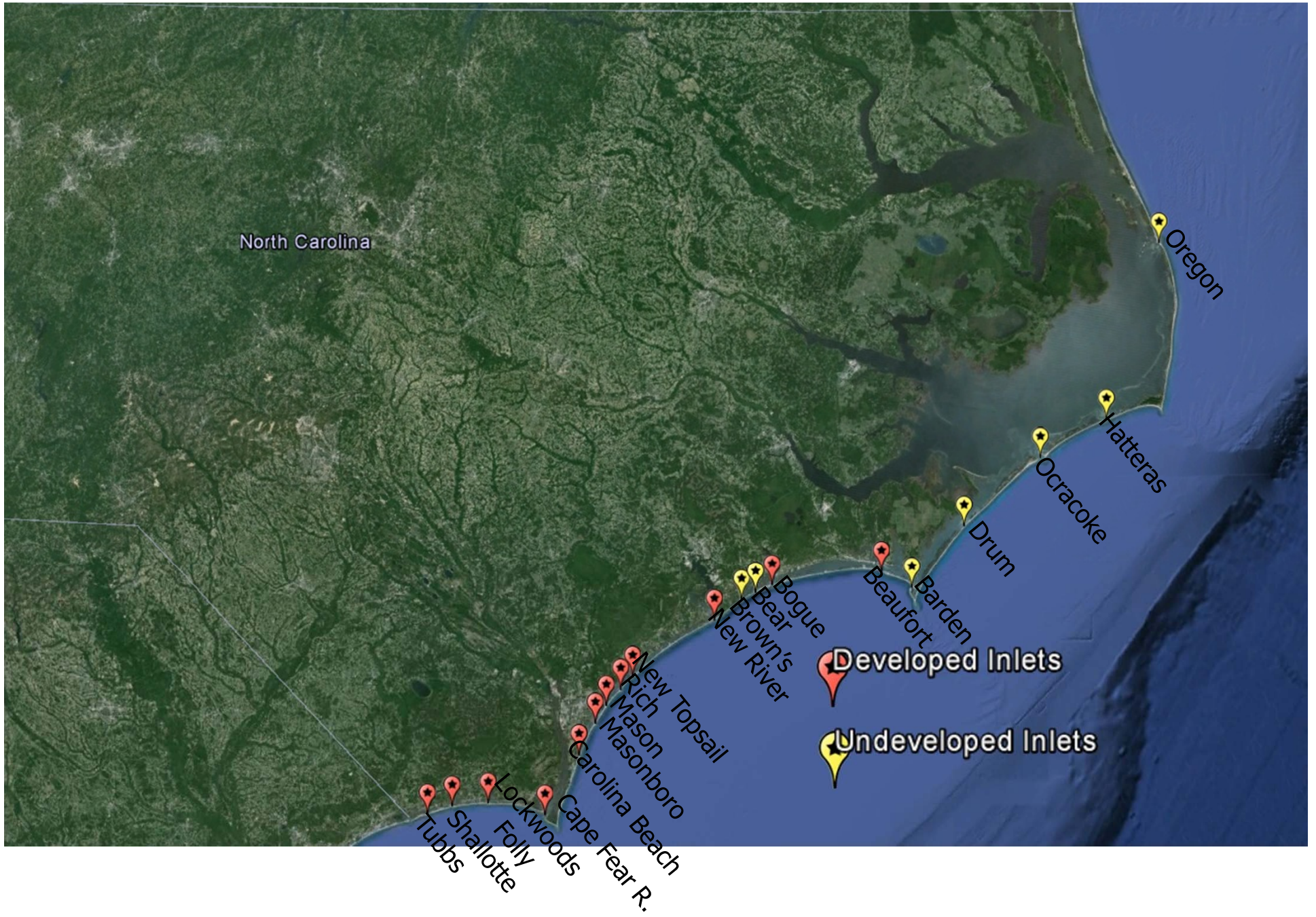
# **N.C. Division of Coastal Management**

## **Inlets in North Carolina**

Matt Slagel

Shoreline Management Specialist





# Oscillating



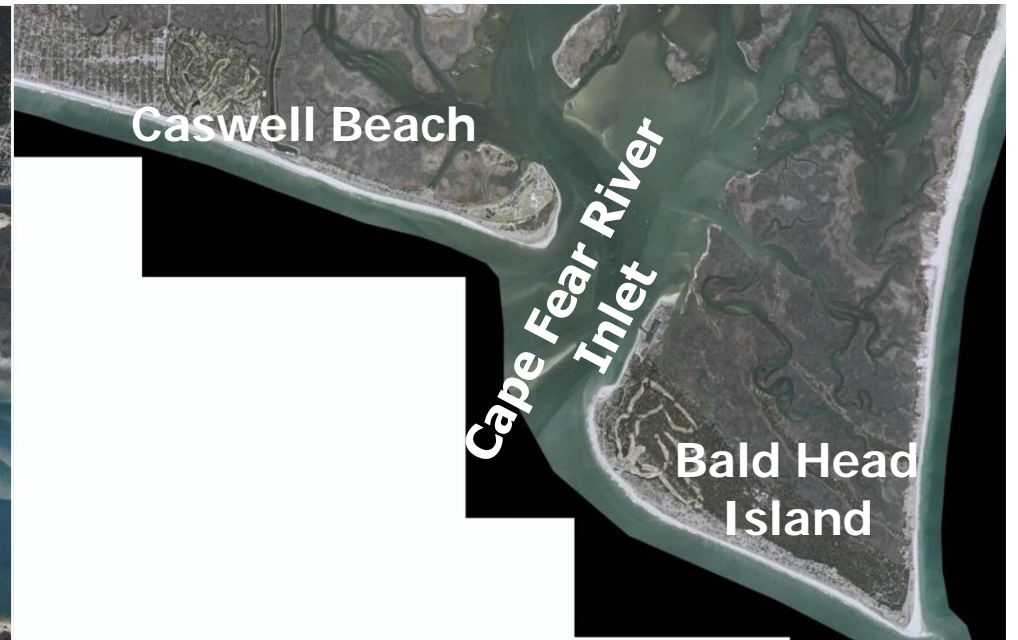
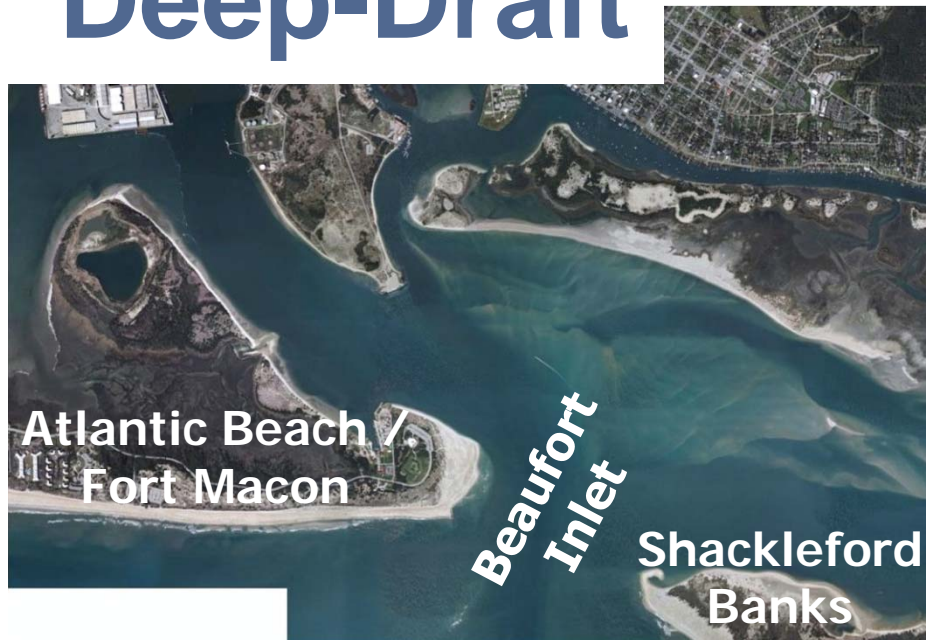
# Migrating



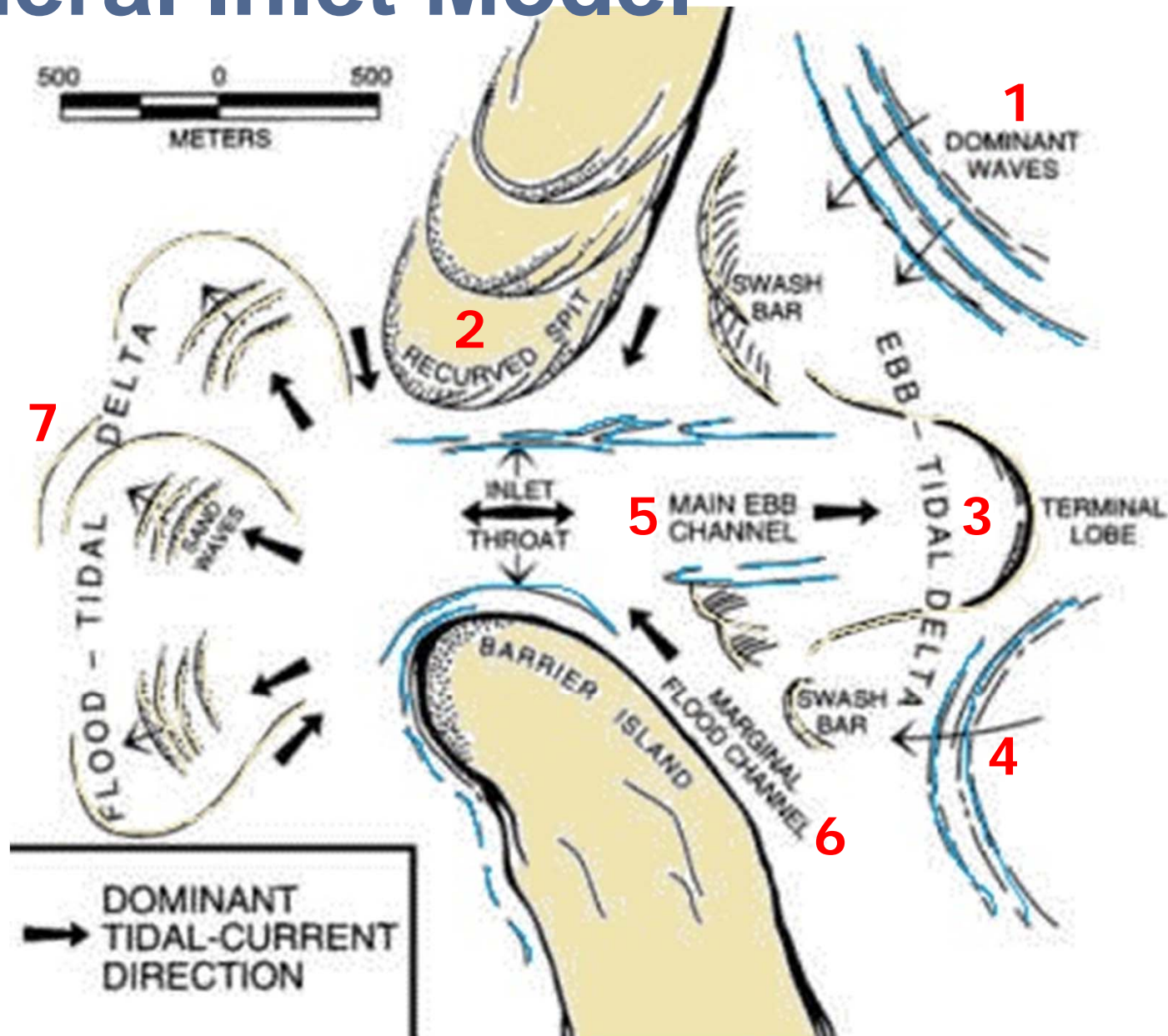
# Shallow-Draft



# Deep-Draft



# General Inlet Model



From: Miles Hayes, 1980. General Morphology and Sediment Patterns in Tidal Inlets. *Sediment Geol.*, 26, pp. 139-156.



# **N.C. Division of Coastal Management**

## **Overview of Inlet Management**

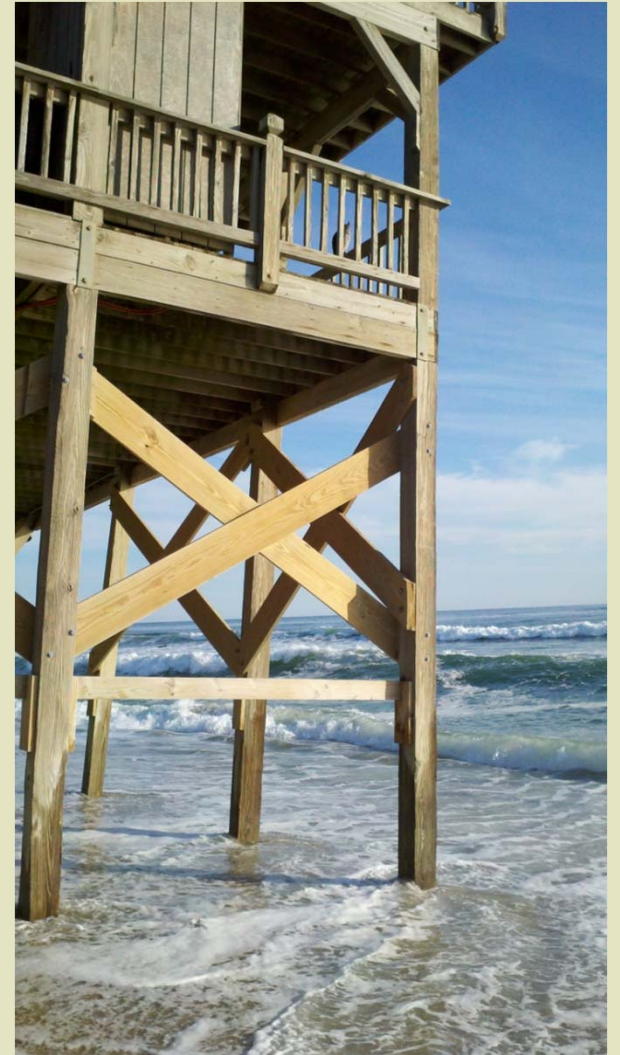
Doug Huggett  
Manager, Major Permits and  
Federal Consistency Section





# Ocean Hazard Areas

- DCM jurisdiction includes:
  - *Ocean Erodeable Area*
  - *High Hazard Flood Areas*
  - *Inlet Hazard Areas*
  - *Unvegetated Beach Area*
- Erosion rate-based setbacks based on size of structures
- Erosion-control structures
- Beach and inlet projects





# Ocean Hazard Setbacks

Total Square Footage	Setback Factor	Setback Distance Based on Erosion Rate				
		2 ft/year	3 ft/year	4 ft/year	5 ft/year	6 ft/year
less than 5,000 sq ft	30	60'	90'	120'	150'	180'
5,000 - 9,999 sq ft	60	120'	180'	240'	300'	360'
10,000 - 19,999 sq ft	65	130'	195'	260'	325'	390'
20,000 - 39,999 sq ft	70	140'	210'	280'	350'	420'
40,000 - 59,999 sq ft	75	150'	225'	300'	375'	450'
60,000 - 79,999 sq ft	80	160'	240'	320'	400'	480'
80,000 - 99,000 sq ft	85	170'	255'	340'	425'	510'
100,000 sq ft or greater	90	180'	270'	360'	450'	540'





# Inlet Hazard Areas (IHA)

- Areas especially vulnerable to erosion and flooding due to proximity to ocean inlets
- IHA boundaries designated in 1981
- Structures < 5,000 sf
- Density restrictions
- No dune building





## Sandbags in Inlet Hazard Areas

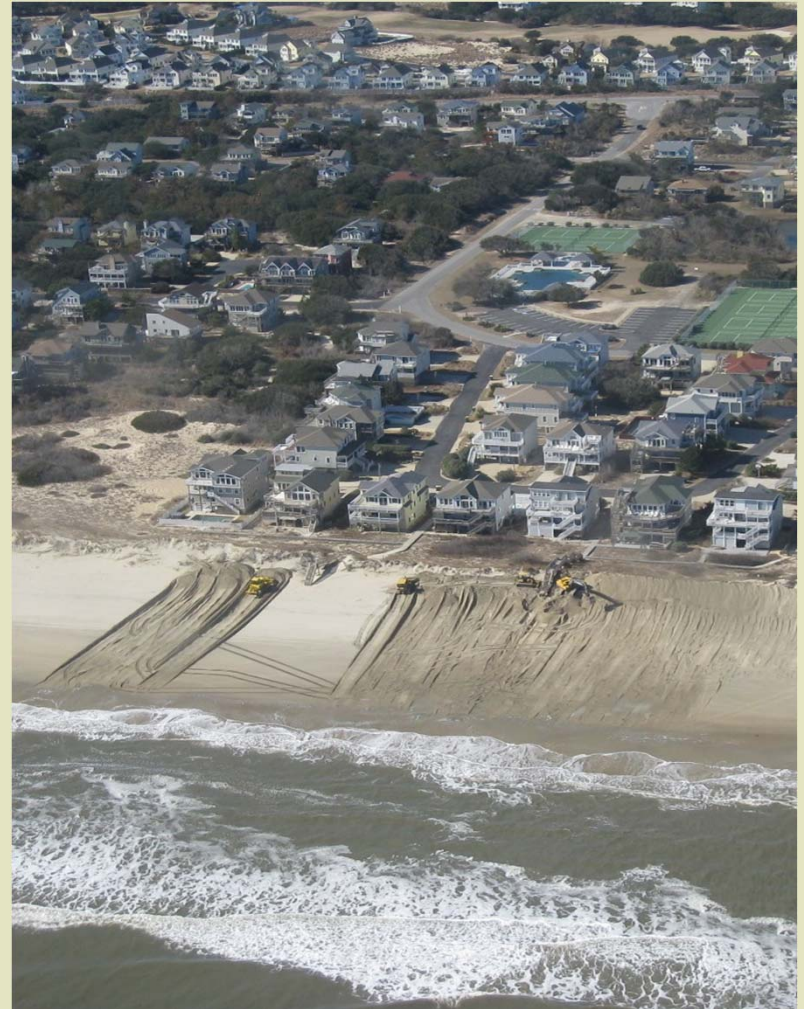
- If community is actively pursuing inlet relocation or stabilization project, sandbags may remain in place for up to 8 years from date of approval, and may be used more than once.
- Bags can be used to protect septic systems.





## Bulldozing in Inlet Hazard Areas

- GP 1800 (15A NCAC 7H.1800) allows beach bulldozing landward of the MHW mark in the Ocean Hazard AEC, but does not apply to IHAs.
- 15A NCAC 7H.0308(b)(5) “no new dunes shall be created in inlet hazard areas.”





## Timing of Projects

- 15A NCAC 7H.0308(a)(1)(F) states that “project construction shall be timed to minimize adverse effects on biological activity.”



## Sediment Criteria Rules

- Recent rule changes have reduced the burden on project applicants for sampling and analysis.
- Changes were based on DCM experience with implementing the rules.
  - Adequate sediment sampling is maintained.
  - Costs for applicants are decreased.



# Beneficial Use of Dredged Materials



Dredging of Cape Fear River Inlet with Sand Placed  
on Bald Head Island



# Inlet Channel Realignment

Figure Eight Island



Wrightsville Beach

Figure Eight Island



Wrightsville Beach



# Terminal Groins

- SB 151 allows 4 terminal groins to be permitted
- In various stages of the process:
  - Bald Head Island, Figure Eight Island, Holden Beach, Ocean Isle Beach







## DWR Shallow-Draft Inlets Study

- Study includes Bogue, New Topsail, Carolina Beach, Lockwoods Folly, and Shallotte Inlets.
- **Goal:** determine costs (time and money) of obtaining federal and state permits at the local level to dredge to current authorized dimensions and/or to deeper authorizations.
- Maintenance dredging agreement between USACE and DENR
- Shallow Draft Navigation Channel and Lake Dredging Fund – 50% of costs
- S.L. 2013-138: Permit streamlining for inlet dredging

# DCM Division of Coastal Management



<http://www.nccoastalmanagement.net>

**North Carolina Department of Environment and Natural Resources**  
**Division of Coastal Management**

Navigation: [About DCM](#) [Contact DCM](#) [CAMA Counties](#) [Search DCM](#)

**Fast Facts**  
Drought information from NCEM  
New Land-Use Planning Guidelines  
- Installation of Sand Fences  
- Coastal Habitat Protection Plans  
- Who Owns the Beach?  
- Recent CRC Actions  
- More Fast Facts ...

**Coastal Links**  
NCDENR Customer Service  
NCGov.com  
Privacy Policy / Disclaimer

**CAMA Permits**  
When a permit is needed, Permit fees, Permit fee applications, more...

**CAMA Rules & Policies**  
Current rules, Proposed rules, CAMA, Dredge & Fill Law, Enforcement, more...

**Coastal Resources Commission**  
Members, Meetings schedule, Coastal Resources Advisory Council, more...

**CAMA Land-Use Planning**  
Learn about CAMA land-use planning, Grants for local governments, more...

**Coastal Hazards & Storms**  
Storm information, Erosion and oceanfront development, Science Panel, more...

**Coastal Reserve Program**  
Virtual tours, Teachers' Grants, Estuary Reserve, Decision making, more...

**News & Events**  
News releases, CAMAgram, Public hearings, Coastal facts, more...

**Beach & Waterfront Access**  
Find access sites, Grants for local governments, Clean marinas, more...

**Wetlands**  
Conservation, Inventory, Restoration, N.C. Wetlands Partnership, more...

**Maps & Data**  
Erosion rate maps, What is GIS? Cumulative & secondary impacts, more...

Logo: **North Carolina Department of Environment and Natural Resources** (NCDENR)

**QUESTIONS?**



# Rich Inlet



# Rich Inlet

